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TITLE : LITHIUM TRANSITION METAL BASED HALOGENATED OXIDE AND ITS
PRODUCTION AND ITS UTILIZATION

ABSTRACT : PROBLEM TO BE SOLVED: To provide a positive electrode material of a
lithium-containing transition metal oxide base excellent in cycle property or preservable
property even under a high temp.

SOLUTION: This positive electrode material consists essentially of the oxide or the
halogenated oxide of a lithium-containing transition metal expressed by Li_aMbOcXd (M
represents a metal element selected from Cr, Mn, Fe, CO and Ni; X represents a halogen
element) and has the particle surface covered with a crystalline metallic halide NXe (N
represents a metal element selected from Li, Mg, Al, Ca, Ti, V, Cr, Mn, Fe, CO and Ni; (e)
represents the valency of N) and the quantity of halogen existing in the state of the
crystalline metallic halide on the particle surface is 0.01-0.5 by the atomic ratio of X/M, the
quantity of halogen existing in the state of a solid solution, in which oxygen atom in the
particle is replaced, is ≥ 0.002 by the atomic ratio of X/M and the total quantity of halogen
existing in the state of the crystalline metallic halide on the particle surface and existing in
the state of the solid solution, in which oxygen atom is replaced, in the particle is 0.02-0.5
by the atomic ratio of X/M.

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